Environmental Assessment
Grazing Lease #3600679
Three Creeks Allotment
**EA#OR135-02-006**

**Bureau of Land Management**
**Spokane District**
**Border Resource Area**

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**Three Creeks Allotment Management Plan/Environmental Assessment # OR135-02-EA-06**
**Grazing Lease# 360679**

## Introduction

This environmental assessment addresses the Three Creeks allotment (#360679) on lands administered by the Bureau of Land Management (BLM), Spokane District. The lands are located 2 miles northwest of the town of Odessa, Washington in Lincoln County (see map). This area is within the Upper Crab Creek Management Area of the Spokane District's Border Resource Area.

## Purpose and Need

The purpose of reviewing grazing lease renewals is to assess current conditions on the allotment and determine whether changes are needed in allotment management, as a result of either new information or analysis of allotment monitoring.

There is potential on this allotment to improve rangeland, riparian areas, and wildlife habitat. This joint evaluation/environmental assessment is needed to address ways to make these improvements, through alternative grazing proposals or project design features, and to comply with Rangeland Standards and Guides implemented in 1997. Another need for the allotment review and EA is to address a change in ownership of the base property for lease #360679 and application by the new owner for the BLM grazing lease.

## Location and Allotment Description

The Three Creeks allotment encompasses approximately 2,630 acres of BLM-managed lands in:
T. 21 N, R. 32 E, Sections 1, 2 and 3
T. 22 N., R.32 E, Section 36
T. 21 N., R.33 E., Section 6.

The allotment consists of nine pastures (seven upland pastures and two riparian pastures), two developed springs, and several water gaps allowing livestock access to Crab Creek and Sheep Creek. See Table 1 for pasture descriptions and the attached Map for locations of the pastures and range improvements.

| **Table 1. Description of Pastures & Comparison of Management by Alternatives, Grazing Allotment #360679** | | | | | |
|---|---|---|---|---|---|
| **Pasture** | **Size (acres)** | **Pasture Information** | **Grazing Plan For 2003 Alternative 1** | **Alternative 2** 168 AUMs Between 3/01 and 2/28 | **Alternative 3** |
| 1 | 640 | Upland. Developed spring. Pastures 1 & 7 currently fenced together. | Within 4/15-6/15 or 9/15-11/15 | | No grazing |
| 2 | 540 | Upland. Developed spring | Within 4/15-6/15 or 9/15-11/15 | | No grazing |
| 3 | 300 | Upland. Water Gap | Within 4/15-6/15 or 9/15-11/15 | | No grazing. |
| 4 | 250 | Upland. Water Gap | Within 4/15-6/15 or 9/15-11/15 | | No grazing |
| 5 | 230 | Upland. Water Gap | Within 4/15-6/15 or 9/15-11/15 | | No grazing |
| 6 | 50 | Upland. Water Gap | Within 4/15-6/15 or 9/15-11/15 | | No grazing |
| 7 | 520 | Upland. Access to Crab Creek. Proposed fence and water gap | Within 4/15-6/15 or 9/15-11/15 | | No grazing |
| 8 | 60 | Riparian. Access to Crab Creek | Rest 2003 Case-by-case basis, for 7-10 days only, between 4/15-6/15 and 9/15-11/15. Avoid grazing June-early Sept. | | No grazing |
| 9 | 40 | Riparian. Access to Crab Creek | Rest 2003 Case-by-case basis, for 7-10 days only, between 4/15-6/15 and 9/15-11/15. Avoid grazing June-early Sept. | | No grazing |

**Background and Conformance**

*Background*: The original BLM lease for the Three Creeks area consisted of 480 acres in T. 21 N., R. 32 E, Section 2. Through land tenure adjustments made during the period from 1989 through 1992, the Spokane BLM District land holdings in the area increased by 2,150 acres. Private property now owned by Rich Whitaker, totaling 320 acres south of Section 1, is the base property for grazing lease #360679. This is the identical base property as in the previous lease held since 1992.

Prior to BLM acquisition of the 2,150 acres, these lands were grazed year round with no restrictions to the number of animals grazing or use parameters. In 1992, the BLM implemented a grazing lease that authorized a rotation grazing system with a preference level of 168 Animal Unit Months (AUMs) at specified times within the entire year. Specific times for use were generally between 4/1 and 11/10; the grazing lessee received notification of pasture use time frames at the time of annual billing.

At the time of the Spokane RMP was prepared, this lease was classified as a "C" (Custodial) allotment, due to the smaller acreage size of the allotment and its location within other ownerships; this situation presented little or no opportunity for BLM management direction to improve the lands within the allotment.

Historically, Pasture 6 was irrigated and grazed in conjunction with Pastures 4 and 5.

*Conformance With Land Use Plans*: The Spokane RMP Record of Decision (page 26) specifies that allotment management plans (AMPs) will be developed to establish livestock use levels, grazing systems, seasons of use, and the need for range improvements. This allotment management plan conforms to that direction.

The Spokane District RMP (1985, Appendix E, page 174) specifically identified this allotment as a Custodial allotment, totaling 476 acres and 68 AUMs, with grazing from 4/15 to 5/31.

**Description of Alternatives**

Three alternatives were analyzed (Proposed Action, Continue Existing Grazing Plan, and No Grazing). These alternatives are described individually below.

*Alternative 1 - Proposed Action*

This alternative proposes to renew the Three Creeks grazing allotment lease for 10 years, incorporating grazing strategies described below, consistent with or moving towards a desired future condition consistent with multiple use goals of the BLM.

*Grazing Plan*
Permitted use would be established at 150 AUMs, with an additional 100 AUMs granted on a temporary non-renewable basis at the manager's discretion based on resource conditions.

The lease would be implemented with a rest rotation grazing system or deferred rotation, using seven upland pastures (Pastures 1-7) and two riparian pastures (Pastures 8 and 9). BLM-administered lands within the allotment would be grazed between 4/15-6/15 and 9/15-11/15 for a designated period of time to be determined annually. The season of use and rotation per pasture may vary, depending on environmental variability (such as weather), forage conditions, and management factors, as determined by the BLM Authorized Officer in consultation with BLM staff and the grazing lessee. Until the proposed range improvements are implemented, grazing management would adhere to the 2002 grazing schedule.

Upland pastures would be rested two out of three consecutive years during the growing season for native bunch grasses, approximately 4/15 to 6/15. No irrigation practices will be allowed on any of the BLM-administered lands within this allotment.

Grazing in pastures containing Washington polemonium (Pastures 1 and 7) would be limited to the period outside the plants growing season (April through June) or fencing would be constructed to restrict livestock access to polemonium plants.

Grazing in pastures containing Washington ground squirrels would be limited to the period outside the period when squirrels are active (April through June) or fencing would be constructed to restrict livestock access to burrowing sites.

Grazing of the two riparian pastures (Pastures 8 and 9) would be on a case-by-case basis, as determined by the BLM. Cattle would be removed from pastures with riparian areas (Pastures 7, 8 and 9) when stubble height requirements of 6 inches of key plant species are achieved, or before browsing or mechanical damage of shrubs by livestock could limit site capability and potential criteria. The grazing duration of the riparian pastures would be for approximately 7-10 days, and would avoid grazing during the "hot season" generally between June and early September.

*Proposed Improvements*

- During FY 2003, a cross fence would be constructed north and south between Pastures 1 and 7 to make two separate pastures.
- Fences would be constructed around the two springs in Pasture 1.
- Temporary or permanent fences will be constructed in Pastures 1 and 7 adjacent to Crab Creek to limit livestock access. Pass gates will be installed as necessary to allow for public access between pastures.

See following section for a list of Management Actions/Project Design Features applicable to Alternative 1.

*Alternative 2 - Renew Existing Lease (Continuation of Present Lease)*

This alternative would renew the existing lease for a period of 10 years with no new range improvements proposed. Grazing levels and times of use would be 168 AUMs occurring at designated times within the entire year between 3/01 and 2/28. For the grazing schedule that has generally been followed and which would be proposed for Alternative 2 is provided on Table 1.

*Alternative 3 – Do Not Issue Grazing Lease*

The grazing lease would not be renewed, and no livestock would graze. No range improvements would be constructed.

**Management Actions/Project Design Features For Alternative 1 (Proposed Action) and Alternative 2**

*Range Improvements*

- Additional range improvements may be constructed, based on monitoring, to achieve or maintain rangeland health standards as required by 43 Code of Federal Regulations, Subpart 4180 (Rangeland Health). Range improvements include any project or construction activity (including fences, spring developments, and cattle guards) occurring within the rangeland ecosystem that is designed to achieve or maintain Rangeland Health Standards as described in Standards for Rangeland Health and Guidelines for Grazing Management (USDI 1997).

- The grazing lessee will maintain all range improvements. The BLM may contribute materials, if available, for major repair work.

*Resource Inventories*

- Appropriate resource inventories (including cultural, paleontology, botanical, and wildlife) will be conducted prior to implementing specific projects on the allotment. If important resources are identified or located, the project may be redesigned to reduce or eliminate impacts to those resources. If cultural properties cannot be avoided, consultation will be conducted with the Office of Archaeology and Historic Preservation, the Colville Confederated Tribes, the Spokane Tribe of Indians, and in some cases the Advisory Council on Historic Preservation.

*Noxious Weed and Invasive Plants*

- Noxious/invasive weeds will be treated or controlled using chemical or biological methods, as needed and according to the *Final EIS for Vegetation Treatment on BLM Lands in Thirteen Western States* dated July 1991, the Spokane District Noxious Weed Control Environmental Assessment, and any subsequent updates, revisions, or replacements to either of these documents.

*Monitoring and Evaluation*

- Monitoring and evaluation will be done in accordance with the Spokane District Monitoring Plan.

- Photo monitoring of riparian herbaceous communities, hardwood/shrub communities, and stream form and function criteria will consider site capability and potential criteria, consistent with Rangeland Health Standards.

- Utilization levels of key upland native plant species will be 50% utilization of current year's growth by weight.

- Upland bunch grasses will be monitored to assess the effects of grazing and to determine any needed changes in management.

- Other evaluations of the allotment use and resource values, in addition to the Rangeland Health Assessment, will be conducted as needed, after reviewing the monitoring reports.

*Administrative*:

- Due to the additional acres acquired and included in this allotment, this allotment will be managed as an (I) Improve allotment per management direction in the Spokane RMP/EIS (1985, page 57) and the Spokane Resource Management Plan Record of Decision (1987, page 25), that provides for "I" status when allotments have a potential for resource improvement.

**Affected Environment and Environmental Impacts**

The allotment was used for the effects analysis as it relates to direct, indirect and cumulative effects of each alternative. Reasonable foreseeable future actions considered in the allotment analysis include various recreation activities (such as hunting and hiking), grazing, and vehicular road use. Reasonably foreseeable future actions are those activities that may occur over the next 10 years, which is the length of the proposed grazing lease.

The following text is presented by affected environment and impacts for each resource value considered in the analysis. The focus of both the description and impacts sections is on resources that have potential for significant impacts.

**Soils**

The predominant soils within the Three Creeks Allotment consist of Roloff-Bakeoven-Rock outcrop complex, 0 to 15 percent slopes, Strat very cobbly silt loam, 0 to 15 percent slopes and Stratford gravelly silt loam, 0 to 15 percent slopes.

Roloff-Bakeoven-Rock Outcrop complex soil is moderately deep to shallow, well drained with moderate permeability and low available water capacity. This soil complex has slow to rapid surface runoff and slight to high erosion hazard. The Strat and Stratford soils are very deep and well drained with moderate permeability and very low available water capacity. These soils exhibit medium surface runoff and moderate erosion hazard. All soils within the Three Creeks Allotment are used primarily as rangeland.

The following indicators were evaluated to indicate the health of upland communities: soil surface organic matter, soil microbiotic crusts, soil compaction layers, plant functional/structural groups, plant mortality, litter amount and distribution, annual production, noxious and invasive plants, and perennial plant reproductive capability.

**Impacts on Soils**

Under Alternative 1 (Proposed Action), periodic livestock use could affect soil structure mainly by compaction. Compaction reduces water and air infiltration into the soil, which could restrict plant root growth and plant vigor. Soil compaction can lead to surface water runoff, puddling and subsequent soil erosion and reduced soil productivity. Accelerated soil erosion may create water quality issues by introducing sediment to streams.

Under Alternative 2, effects to soil resources would be similar to those identified under Alternative 1.

Under Alternative 3, effects to soil resources would be considerably less than those identified in Alternatives 1 and 2. Effects to soil would occur as a result of climatic events while recovering from past land use disturbances.

**Vegetation**

**Vegetative Communities**

The Three Creeks allotment is within Daubenmire's big sagebrush/Idaho fescue zone, near the boundary of the big sagebrush/bluebunch wheatgrass zone. Big sagebrush/Idaho fescue occurs on some north and northwest-facing slopes in Pastures 2 and 3. There are also a few patches of threetip sagebrush/Idaho fescue on a north-facing slope above Sheep Creek near the northern boundary of Pasture 3. The predominant upland vegetation on the allotment is big sagebrush/bluebunch wheatgrass-Thurber's needlegrass. Gravelly slopes are dominated by purple sage-roundheaded buckwheat/Thurber's needlegrass. Stiff sagebrush/Sandberg's bluegrass occurs on shallow rocky soils.

An Ecological Site Inventory was supplemented to the 2001 inventory of rangeland health indicators. The Ecological Site Inventory of uplands in Pasture 1 identified about 560 acres at the Potential Natural Community or a late-seral ecological status, with the remaining 2,070 acres rated in mid-seral ecological status.

The riparian area on this allotment is dominated by quackgrass, reed canary grass, and basin wild rye, with the woody component consisting mostly of water birch, willows, Wood's rose and hawthorn. The hawthorn, rose, and willows show impacts from past and current livestock use. Many hawthorns trees within the allotment are "hedged" by livestock as evidenced by a lack of lower branches and altered growth form.

**Special Status Plants**

Washington polemonium, a Bureau Sensitive species and Washington state Threatened species, occurs along Crab Creek in Pastures 1 and 7. This plant is also present between Crab Creek and the railroad tracks on a site that is not accessible to livestock.

Snake River cryptantha, a Bureau Assessment species and Washington state Sensitive species, occurs on gravelly slopes north of Crab Creek in Pastures 1 and 2.

Botanical inventories of the allotment during the appropriate growing season have not found any plant species that are federally listed or proposed for listing.

**Plants of Cultural Importance**

Berry-producing plants, including serviceberry, choke cherry, hawthorn, golden currant, wax currant, elderberry, red raspberry, and Wood's rose occur near Crab Creek and in shrub garlands associated with talus slopes within the allotment. Culturally important root crop plants occurring within the allotment include Canby's lomatium or white camas, bigseed lomatium, wild onions, and bitterroot on shallow soil areas, and nineleaf lomatium and yampah in meadows and gently sloping grasslands. The allotment is within an area that has traditionally been used for root digging by local Native American populations.

**Noxious Weeds**

Noxious weeds found within the Three Creeks Allotment, by descending size of infestation, include: Russian Knapweed, diffuse knapweed, Canada thistle, Dalmatian toadflax and bull thistle. These noxious weeds are scattered throughout the allotment, collectively totaling 50 acres. Both herbicide and biological control insect treatments have been implemented on portions of the Three Creeks Allotment since 1990. Noxious weed treatments have substantially reduced weed populations, and follow-up treatments are required as maintenance.

**Impacts on Vegetation**

Under Alternative 1 (Proposed Action), constructing a fence dividing Pasture 1 into two pastures would increase flexibility in resting areas periodically as part of the grazing rotation. A rest period would allow preferred forage species such as native bunchgrasses to accumulate reserves and produce seed, helping to maintain or increase cover of these species. Fences excluding livestock from the riparian area along Crab Creek would allow regeneration of native vegetation, including riparian shrubs.

Alternative 2 (continuation of the present grazing regime without additional fence construction) plant communities would remain in the current state and would likely not improve under the current grazing regime. Areas such as the riparian corridor that currently experience heavy use by livestock would continue to receive heavy use. Without the fence in Pasture 1, livestock use would not be distributed uniformly throughout the pasture.

Under Alternative 3 (No Grazing), the populations of upland and riparian native plant species would likely increase. The riparian vegetative community would likely reach site potential and site capability. Some impacts to riparian vegetation would continue to occur from wildlife, such as beaver and wild ungulates. Wildlife impacts on vegetation are expected to be minimal.

**Impacts on Special Status Species**

Washington polemonium, a perennial plant, produces annual shoots from a subterranean crown; shoots emerge in March and April, flowering occurs during May and June, and the shoots begin to senesce shortly thereafter. The plants do not appear to be highly attractive as forage. However, removal of shoot tips by grazing or browsing animals has occasionally been observed in both grazed and ungrazed pastures at other locations, so wild ungulates such as deer apparently utilize the plants at times. The plants may also experience physical damage from trampling if livestock congregate in areas (such as riparian terraces and moist swales) where it grows. Because of available moisture, these habitats are also prone to invasion by noxious weeds such as whitetop, Canada thistle and Russian knapweed, which compete with this species.

Snake River cryptantha occurs on gravelly or sandy, sparsely vegetated soils and appears able to tolerate some disturbance, as indicated by its presence on some 4WD trails. Livestock are unlikely to graze these areas heavily, or congregate there, because of the relative scarcity of palatable vegetation in these sites. Therefore, impacts on this species are unlikely to differ noticeably among the three alternatives, and none of the alternatives would increase the probability that the species would become listed under the Endangered Species Act.

Under Alternative 1, fencing along the Crab Creek riparian corridor would protect the Washington polemonium plants from potential grazing and trampling by livestock. Exclusion of livestock from this area would also likely reduce the spread of noxious weeds within the Washington polemonium sites. Construction of a north-south fence within Pasture 1 would allow greater control over movement of livestock within this pasture, further reducing the potential for adverse effects on Washington polemonium. Increased protection of these areas from livestock grazing, combined with noxious weed control measures, could increase the likelihood of expanding the existing Washington polemonium population.

Under Alternative 2, the proposed range improvements would not be constructed, limiting the available options for protection of Washington polemonium.

Under Alternative 3 (No Grazing Lease), no livestock would be present on the allotment, so no direct or indirect effects of livestock grazing would occur. Litter accumulation would likely increase with absence of livestock, possibly resulting in decreased likelihood of seedling establishment for Washington polemonium, but also reducing the potential for establishment of competing non-native weedy species.

**Impacts on Noxious Weeds**

Under Alternative 1 (Proposed Action), livestock could cause an increase in noxious weed populations as a result of trampling desirable vegetation, displacing soil, preparing noxious weed

seedbeds through hoof action, and transporting and dispersing seeds on their coats and through their digestive tracks.

Effects to noxious weeds in Alternative 2 would be similar to those for Alternative 1.

Under all three alternatives, noxious weeds may become established within this allotment as a result of wildlife movement, administrative and public access and disturbances, and windborne seed introduced from adjacent weed-infested lands.

**Water Quality**

Affected Environment

Crab Creek and its tributaries, as they intersect the Three Creek Allotment, are classified by the state of Washington as Class "B" surface waters. A Class "B" rating denotes good water quality. Water quality of this class shall meet or exceed the requirements for most uses including stock watering, fisheries, wildlife habitat and recreation. These segments of Crab Creek are not listed as 303(d) impaired surface waters. Past and ongoing water quality monitoring of reaches of Crab Creek within the Three Creeks Allotment indicate water quality meets or exceeds standards for a Class "B" surface water within the state of Washington.

**Environmental Consequences**

Under Alternative 1 (Proposed Action), water quality would continue to meet or exceed the water quality standards for a Class "B" surface water. Some short-lived increases in fecal coliform and turbidity could occur as a result of livestock use at water gaps and runoff triggered by intense rainstorms.

Under Alternative 2, effects to water quality would be similar to those identified under Alternative 1.

Under all alternatives, including Alternative 3 (No Action), water quality within the allotment area could be degraded by naturally occurring events, including weather and soil movement.

**Riparian Habitat**

There are approximately 50 acres of riparian habitat within the allotment containing wetland (lentic) and intermittent/perennial stream (lotic) systems. The intermittent/perennial system consists of 3 miles of Crab Creek flowing through Pastures 1, 6, 7, 8 and 9 and 0.7 miles of Sheep Creek tributary in Pasture 2. Pasture 1 has approximately 15 acres of lentic habitat consisting of three springs/seeps. Pasture 8 is a riparian enclosure implemented cooperatively with the Inland Northwest Wildlife Council and BLM, with the intent of improving riparian condition for wildlife habitat.

A Proper Functioning Condition (PFC) assessment of the allotment was completed in 1995 and a reassessment was done in 2002 as part of the allotment renewal process. According to the recent assessment, much of the lotic habitat (75%) is in proper functioning condition, thereby meeting

the standard for watershed function. The current growth form of woody vegetation, lack of recruitment, and loss of structural diversity in much of the riparian vegetation in pastures 1,7 and 9 indicate that past management has not allowed the site to maintain species essential to bank stability and important to supporting ecological processes

Approximately 10 acres of the wetland habitat in Pasture 1 was determined to be functional-at-risk as evidenced by mechanical damage to riparian vegetation and loss of residual vegetative growth primarily attributed to livestock impacts.

*Under Alternative 1* (Proposed Action), the proposed grazing regime and range improvements would result in an overall improvement in the growth, structure, and diversity of riparian vegetation/riparian habitat from the existing condition.

Under both Alternatives 1 and 2, livestock trailing along Crab Creek could contribute to alteration of stream form and function

*Under Alternative 2* (Current grazing plan), riparian objectives would not be met.

Under Alternative 3 (No grazing), riparian objectives would be met in all pastures containing lotic and lentic habitat with time and at a faster rate than under a grazing alternative, as evidenced in Pasture 8.

**Wildlife Habitat**

The shrub-steppe habitat (95% of allotment), riparian-wetlands (2 %), cliff and talus (3%), and grassland habitats within the Three Creeks allotment are BLM and State priority wildlife habitats. These high priority habitats provide critical nesting, foraging, and predator protection for numerous species.

Shrub-steppe dependent species observed during surveys in 2002 included meadowlark, horned lark, brewer's and savannah sparrows. Pasture 8 currently sustains a high diversity of mammals (bats, beaver), birds (nesting waterfowl and migratory landbirds) and amphibians (tree frog and garter snake).

*Special Status Species:*
Three categories of special status species were considered: (1) species present on the allotment at the time of the survey, (2) species with potential to use available habitat, and (3) species historically present.

*Federally Listed species:* No federally listed wildlife species were detected on this allotment, although sage grouse (a federal candidate species) and sharp-tailed grouse (a federal species of concern) have historically inhabited the region. The birch/willow habitat along Sheep Creek and Crab Creek could provide grouse wintering habitat. Historically, ferruginous hawks (a federal species of concern and a state threatened species) nested on the cliffs north of Crab Creek.

*State Listed/Candidate and BLM Sensitive Species:* Two special status birds and two mammals were detected on the Three Creeks allotment during surveys in 2002. Sandhill cranes (state

endangered species) were observed in late March 2002 along the main stem of Crab Creek. Riparian habitat along Crab Creek and the adjacent cultivated fields may provide resting and foraging habitat during spring and fall migration. Sage thrasher (a state candidate species and BLM priority species) is a sagebrush-obligate species dependent on sagebrush for nesting and foraging. The allotment has potential nesting habitat for sage thrasher. Vesper sparrows (grassland nesting birds and a BLM priority species) were detected during the breeding bird survey conducted in the spring of 2002. Two state candidate species were also detected within the allotment area (Washington ground squirrels in Pasture 4 and white-tailed jackrabbits in Pasture 5).

*Impacts on Wildlife Habitat*

Alternative 1 (Proposed Action) - By increasing the number of pastures, reducing the duration of grazing, and providing a rest period, Alternative 1 could alleviate grazing impacts to upland pastures. Increased vegetation height and density could improve nesting habitat for shrub-steppe dependent birds. Fencing the springs and associated shrub pockets would reduce mechanical damage caused by cattle and allow habitat quality improvements. Shrub pockets associated with springs typically provide habitat for numerous species of upland birds, amphibians, and mammals. Spring grazing (4/15-6/15) in Pastures 4 and 5 could result in injury to the Washington ground squirrel by concentrating cattle in areas of ground squirrel use during the early stages of their life cycle. Burrow collapse could increase both adult and juvenile mortality. The level of grazing that occurred in the spring of 2002 could also limit forage available for Washington ground squirrels. Adjusting the grazing rotation to avoid negative cattle-ground squirrel interaction or excluding cattle from areas of ground squirrel use could minimize impacts to this state candidate species.

Alternative 2 (Continuation of the current grazing plan without range improvements) would permit year-round grazing to continue. This grazing regime has degraded wildlife habitat in Pastures 4, 5, and 6. Concentrated use of the riparian areas along Crab Creek as also damaged wildlife habitat. Decreased forage and nesting cover (both ground and shrub-nesting habitat) availability could result. Impacts in Pastures 4 and 5 would be similar to those of Alternative 1

Alternative 3 (No Grazing) would likely increase available forage for wildlife by allowing upland vegetation (both grass and shrubs) and shrub pockets to regenerate. Upland pasture vegetation would likely increase in height and cover, and provide increased forage and nesting habitat for shrub-steppe dependent species. No grazing would reduce livestock-induced burrow collapse and increase the available forage for the Washington ground squirrel.

**Fisheries Resources**

The majority of Crab Creek on the Three Creeks allotment does not sustain year-round flows and typically goes dry by the end of July. Year-round flows are generally found in Pastures 6 and 9, as well the west end of Pasture 8. The lack of consistent year round flows, reduced riparian shading, and increased water temperatures favor brown trout in the reach of Crab Creek located on the Three Creeks allotment.

*Impacts on Fisheries Habitat*

Under Alternative 1 (Proposed Action), the proposed range improvements and rotational grazing system could result in an increase in riparian vegetation. An increase in the amount of riparian vegetation along the channel would likely result in cooler water temperatures and improved habitat conditions for fish and other aquatic species.

Alternative 2 (Continue Current Use) would likely continue to degrade riparian habitats and shrubs, possibly compromising bank stability and reducing the amount of shade to the stream.

Under Alternative 3 (No grazing alternative), the amount of riparian shrubs and other bank-stabilizing vegetation would likely increase. An increase in bank-stabilizing vegetation would increase shade, allowing the channel to narrow and increase the stream depth. No grazing would remove livestock damage to the bank from trailing and watering. The likely increase in riparian vegetation and improved channel morphology would improve habitat for aquatic vertebrates (fish) and invertebrates.

**Cultural Resources/Native American Values**

The area surrounding the confluence of Crab Creek and Lake Creek is located in territory traditionally and currently used by members of both the Spokane and the Columbia groups as a source of edible roots and other plant materials. The southernmost of Bob's Lakes, which extended south at least to the present Whitaker house, also provided access to such riparian resources as water fowl and reeds.

Native Americans frequently used flat areas near stream confluences and resource rich areas as residential bases. The riparian areas and lower terraces in the allotment area share these characteristics and are therefore areas of high probability for the occurrence of archaeological sites. The first General Land Office surveyors who crossed this area in the 1870s noted a system of trails crossing the present allotment in Sections 2, 3, 6,and 36 . Much of the area was claimed as homesteads in the 1890s and early 1900s and has been used for grazing since the late 1800s.

Most of Section 2, T. 21 N, R. 32 E. has been included in cultural resource inventories in 1986, 1988 and 1992 (Cultural Resources reports 130860143, 130880131, 130920091, and 130920140). The route of the Sheep Creek Enclosure fence was surveyed in 2000 (Cultural resources report 130000441, in draft). There are no recorded Cultural Resources surveys in the rest of the allotment. The surveys in Section 2 resulted in the location of 11 cultural sites. All of these were rock features located primarily on talus slopes and rocky knobs.

**Impacts on Cultural Resources**

Under Alternative 1 (Proposed Action), the proposed spring grazing would occur when native root crops are most visible, which could reduce populations of these plants or make them difficult to locate for harvesting. Resting the pastures two out of three years would likely result in an increase in the availability of native food plants. Installing posts for fence construction could disturb previously undiscovered subsurface cultural material.

Under Alternative 2 (Continue Current Use), grazing pressure on native food plants would continue at present levels and impacts would be similar to those of Alternative 1.

Under Alternative 3 (No Grazing), the absence of grazing pressure--particularly during the spring growing season when native root crops are most visible--would likely result in increased availability of such plants by reducing competition with livestock.

**Recreation**

The allotment is within an area that has a diversity of recreational activities, including hiking, horseback riding, biking, bird watching, big game, waterfowl and upland bird hunting. It is also within the Channeled Scablands, an area holding unique scenic values for its rich geologic history.

The Odessa Lake Creek Trail connects the town of Odessa and the Lakeview Ranch/Pacific Lake developed recreation site. Six miles of this trail are non-motorized trails winding through Pastures 1, 2, and 7. Pass gates and markers along the trail facilitate public use and reduce interference with the grazing use.

Dispersed recreational use of this area is expected to increase due to economic outreach by eastern Washington in general and specifically by the adjacent community of Odessa.

*Impacts on Recreation*
Under both Alternatives 1 and 2, recreational uses of the area may not be impacted, although the presence of livestock may discourage some recreational activities such as hiking. Future conflicts between the different user groups and multiple uses are unlikely, but could increase due to projected increases in recreational use.

Alternative 3 (No Grazing) would remove the potential for conflicts between livestock grazing and recreational user groups.

**Socioeconomic**

For the lessee, the grazing lease is both a social and economic benefit. It supports a small grazing operator, providing forage for about 150 AUMs, and it also supports the local cattle industry. For the BLM, this grazing lease represents annual revenue of approximately $673 at current BLM animal unit month costs.

The recreational activities in the general area, including this allotment, provide some economic support to the local community of Odessa through purchases of goods and services. The BLM cooperatively supports Odessa's economic development through tourist brochure publications.

Impacts on Socioeconomics

Under the action alternatives (Alternatives 1 and 2), the BLM would receive $673 annually in grazing fees and support multiple use, including livestock grazing. Under Alternative 3, there would be a loss of $673 in receipts in the grazing program and also a loss of pasture use to the lessee.

**Cumulative Effects**

This allotment is part of the upper Crab Creek subbasin (1,172,104 acres), which consists of only slightly more than 4 percent BLM-managed lands (51,267 acres). Most of this BLM acreage is within grazing leases. The Three Creeks Allotment represents less than 1% (two-tenths percent) of the lands within the total subbasin and approximately 5% of BLM-administered lands within the Crab Creek subbasin.

Adjacent lands to Three Creeks Allotment include some BLM-administered lands with similar management (Bob's Lake Allotment), as well as some private lands that are predominantly used for dry land and irrigated crop land, grazing, and residential use.

The proposed grazing, under either Alternative 1 or 2, is one of the uses occurring on other lands in the general area and cumulatively would not impact any element of the environment. The proposed management actions and grazing regimes result in maintaining or improving various habitat components.

**Other Resource Elements Analyzed**

No disproportionately high and adverse human health or environmental effects on minority or low-income populations are expected to result from implementation of any of the alternatives addressed in this EA.

Other resource values or elements considered in analyzing the alternatives included:

- Air quality
- Paleontological resources
- Wild and scenic rivers
- Prime/unique farmlands
- Special area designations
- Wilderness
- Hazardous/solid material

Air quality would not be affected. None of the other elements listed above occur on the allotment. In addition, none of the alternatives would adversely affect mineral or energy development.

**Coordination/Consultation With Other Agencies, Groups, and Individuals**

An interdisciplinary team (IDT) of various resource specialists reviewed the affected environment and three alternatives for this grazing allotment. Specialists provided input about affected environment and potential impacts for their specific resource responsibility. See EA cover page for a list of the specialists who provided input to this analysis.

The EA will be made available for public review and comment, as announced through a legal publication in the Spokesman Review newspaper, a major publication in eastern Washington; a news release to the Davenport Times newspaper, a publication in Lincoln County; and on the Spokane BLM website <www.or.blm.gov/spokane>. Copies of the EA will also be mailed for review and comment to the grazing lessee, the Colville Confederated Tribes, and the Spokane Tribe of Indians.

Consultation letters dated November 2, 2002 on the renewal of the Three Creeks grazing lease, were sent to the Colville Confederated Tribes, the Spokane Tribe of Indians and the Washington State Office of Archaeology and Historic Preservation. No concerns regarding this project were expressed.